CUHA Beat

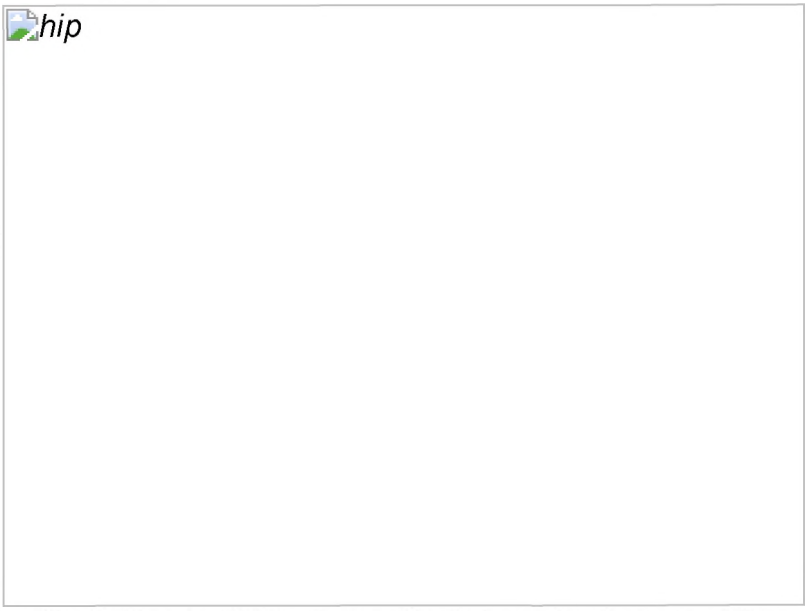
July 2014

First dog breeding database in US launched to improve canine health

Access the site here: http://bit.ly/CornellEBV

Selective breeding may have produced a beautiful variety of dog breeds, but it has also left many with a legacy of genetic disease. To combat this trend, Cornell researchers have launched the Cornell Estimated Breeding Value (EBV) website through which the public can find the propensity for a hip and elbow dysplasia (malformation) of over a million individual registered purebred dogs and designer

dogs, such as labradoodles, in the public domain of the Orthopedic Foundation for Animals (OFA) registry.



The first such public resource in the United State, Cornell's Estimated Breeding Value database will help owners, veterinarians, and breeders care better for existing dogs and make better breeding decisions to improve the health and hardiness of future puppies and each breed as a whole.

"We are providing an opportunity to improve selection and heath of pure breed dogs, for breeding and purchasing, based on their genetic potential for important qualities like good hip and elbow conformation," said Dr. Rory Todhunter, an orthopedic surgeon at Cornell's College of Veterinary Medicine who launched the site with his colleagues.

The site provides estimated breeding values and the accuracy of the estimate derived from statistical models that combine dogs' pedigree relationships with OFA Hip and Elbow Scores, which are available in the public OFA Database (OFFA.org). Ninety-five percent of the purebred dogs registered in the public part of the OFA hip and elbow database are on the Cornell site.

Since the OFA registry began in 1974, it has paired radiographs of dogs' hips and elbows with information from their pedigrees to estimate their propensity for hip and elbow dysplasia. These debilitating malformations are the most common complex orthopedic conditions in dogs with incidences ranging from less than 10 to over 70 percent across pure breeds.

Owners and breeders go to veterinarians to get dogs certified as free of dysplasia at two years of age. They send the radiographs to the OFA and get back a score and can decide whether to allow it to go into the public domain, in which case it would be accessible by Cornell's site.

"We call EBV scores 'estimated breeding values' because you can't identify the genetic quality from appearance alone," said Todhunter. "Just because radiographs look normal doesn't mean a dog doesn't carry the mutations. A dog can have genetic propensity but look normal, but if you breed it with others you might see the problem in the next generation."

That's where combining pedigree information with hip and elbow scores comes into play. With this combination and a large data set, Cornell's site can statistically derive an estimate of a dog's genetic quality. Beyond hip and elbow scores, the registry also contains some information about other conditions, such as patella luxation and thyroid and cardio conditions, and other qualities, such as color and behavior.

"People have been doing this in animal and plant breeding for the last three or four decades," said Todhunter. "When people breed cattle, pigs, poultry, and plants, they do so based on the same statistical methodology we're using. The United Kingdom is the only other country to our knowledge considering such a searchable public database for Labrador Retriever dogs. Germany has the capacity. In Sweden, you can't breed a dog unless its hip info is in a public registry. Gathering and using genetic information this way will benefit breeds in the long run. This tool puts us one step closer to making healthier individuals."

Anyone can access Cornell's site after a brief free registration. One can search for individual dogs by registered name, American Kennel Club registration number, or OFA number. Beyond individual data,

there is a synthetic mating button that allows users to choose two dogs and the algorithm calculates the likely genetic quality of their hypothetical offspring. The site also provides educational material about EBVs, how they are calculated, and frequently asked questions.

Access the site here: http://bit.ly/CornellEBV

CUHA Beat

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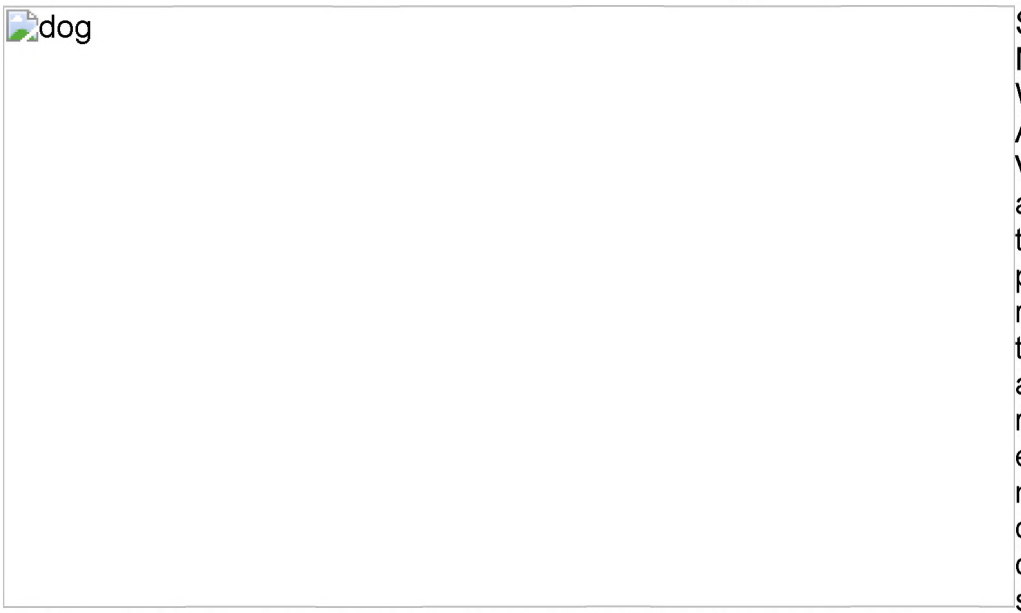
New Sports and Rehabilitation Medicine program gets pets back in the game

From elite champions of the sporting circuits to old dogs who enjoy casual walks, most active animals suffer setbacks at some point in their lives. Cornell University Hospital for Animals (CUHA) has initiated a new Sports and Rehabilitation Medicine service to help them return to their feet and get back in the game.



Section Chief of Clinical Nutrition Dr. Joseph Wakshlag, member of the American College of Veterinary Sports Medicine and Rehabilitation, will direct the Sports and Rehabilitation program. Specializing in rehabilitation, the service will treat canine athletes as well as other companion animals recovering from injuries or experiencing orthopedic or neurologic problems, including cats. Whether serving athletes or everyday companions, the service focuses on helping animals recover performance abilities and stay active at any age.

"Recovery is not just about surgery, physical therapy, general healthcare, or nutrition-- it's about all these things working together," said Wakshlag. "Just like in human medicine, sports medicine for animals is an interdisciplinary field that integrates several modalities to help patients in ways one specific service can't. Sports medicine offers an extra level of expertise that typically can't be found in most general veterinary practitioners' offices."

From classic canine athletes like racing greyhounds, sled dogs, and hunting dogs, to dogs trained in agility, jumping, and field trials, an increasing number of dogs train and compete in canine sports. While sports medicine is common in the human and equine worlds, few clinics offer such services for dogs. Since launching this spring, CUHA's Sports and Rehabilitation Medicine program has seen around five to ten patients per week.

The program offers several treatment modalities, including shockwave ultrasound for certain orthopedic conditions, therapeutic ultrasound for deep tissue heating, transcutaneous electrical nerve stimulation (TENS), underwater treadmill for rehabilitation, low level light laser therapy for wound healing and chronic pain, and electrical acupuncture. Access to a force plate, a rare piece of equipment that can objectively measure how well an animal uses a limb, can provide true validation of whether and to what extent a treatment works.

Pioneering the next generation of treatments, Wakshlag is examining tissue-healing platelet rich plasma therapy, which has revived the prowess of many amateur athletes as well as sports stars such as golf guru Tiger woods, basketball big-shot Kobe Bryant, and many racehorses. He is also involved in studies to determine whether and how supplements can enhance performance and diet can influence recovery.

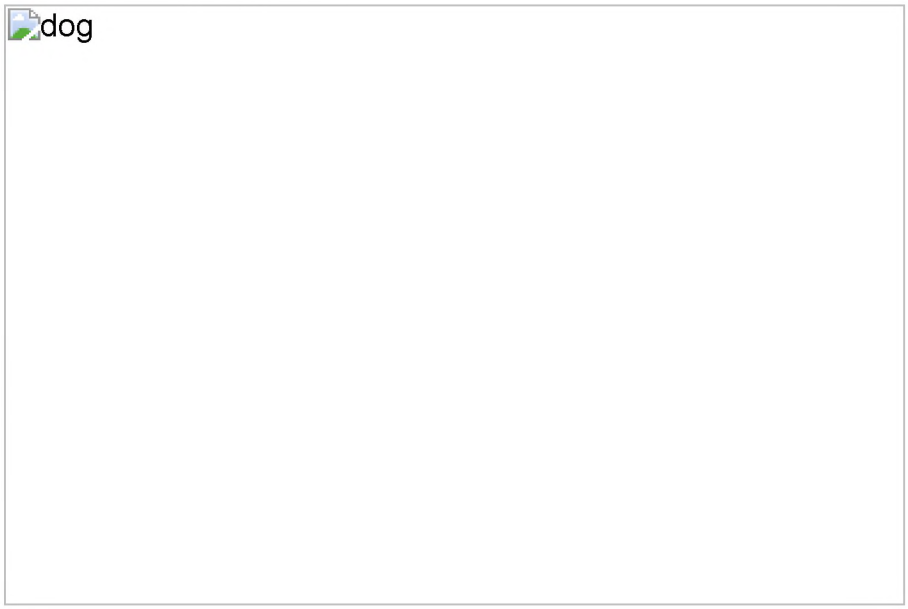
"Sports medicine is getting more popular, and if we want to learn what works and how, we have to do research," said Wakshlag. "That's part of our duty and mission in academia, to advance the field and our understanding of it."

Beyond research, the program opens opportunities for students to learn lesser known treatment modalities including techniques used by human physical therapists. Wakshlag will introduce basic rehabilitation lectures into the core and distribution veterinary curricula, and students serving in the orthopedics and neurology rotations may spend time with the new program's patients.

The program also opens a new residency in Sports and Rehabilitation Medicine, which Dr. Chris Frye '11 will complete as part of a dual residency along with Nutrition over the next five years. The new

residency is funded in part by a generous gift of $120,000 from global pet-care company Nestle Purina, which has provided a total of $1.7 million over the past ten years to support various initiatives at the College related to improving companion animal wellbeing.

To make an appointment with the Sports and Rehabilitation Medicine program, contact CUHA at 253-3060 or vet-hosp@cornell.edu.



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Hospital's cardiology section expands ability to examine large animals

The cardiology section at Cornell University's Equine and Nemo Farm Animal Hospitals (EFAH) is opening its doors wider than ever before, having recently expanded its ability to see large animal patients.

The service has purchased a new state-of-the-art echocardiography machine and is staffed with a full team of board certified cardiologists including Drs. Sydney Moise and Bruce Kornreich. Drs. Eva

Oxford and Flávia Giacomazzi, cardiology residents and experienced horsewomen, have trained intensively to gain proficiency in echocardiography and other disciplines required to diagnose and treat cardiac patients.

With these advances, the cardiology section can now better assist colleagues in the large animal clinic with consultation any weekday and out-of-hours for emergencies.

“We hope our expanded capabilities can meet the high demand we see for our services, particularly when it comes to consults—patients referred to us from other services at our hospital but outside the cardiology section,” said Sarah Miller, LVT, the cardiology service’s chief clinical technician. “If clinicians in other areas of the hospital find a heart issue in a patient they’re seeing for another reason, they can send the patient our way. We are very happy that our capacity has greatly increased.”

The cardiology section sees approximately 1,000 cases per year across all species total. About 40 percent of cases are consults referred by in-house clinicians—a large proportion compared to other services. In addition to all the services in the small animal clinic, the cardiology section works as a team with other expert veterinary specialty units, including the large animal internal medicine service, Equine Performance Laboratory, equine surgery services, anesthesiology service, and imaging service to provide the most comprehensive care possible.

The service’s capabilities grew in part because of the addition of the new echocardiography machine. This specialized ultrasound machine uses sound waves to create moving pictures of a heart, showing size, shape, and how well the heart's chambers and valves are working. This imaging modality can also detect areas of heart muscle that aren't performing well, blood clots inside the heart, fluid buildup in the pericardium (the sac around the heart), congenital heart defects, degenerative valve disease, and bacterial infections in the heart.

The section’s new machine also introduces the ability to conduct high resolution three dimensional imaging of the heart valves in motion. It sports an improved speckle tracking feature, which allows the team to make more detailed evaluation of regional wall motion abnormalities. “Cows and horses are so big that diagnostic imaging can be extremely challenging,” said Miller. “The technology has advanced, and so has our team. Having two machines and a full staff complement will help us manage caseload demand on the fly. We respect that our clients often drive a long distance on behalf of their animals, and we do everything we can to meet and exceed their expectations.”

Visit this CUHA website to learn more about some of the most common equine heart conditions: http://www.vet.cornell.edu/hospital/Services/Equine/Cardiology/conditions/

CUHA Beat

July 2014

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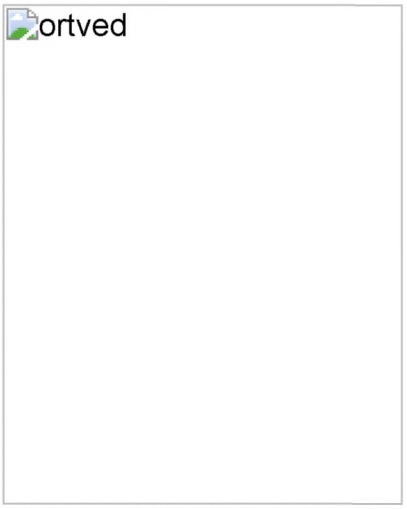
Cornell Ruffian Equine Specialists hires three accomplished horse surgeons

Visit CRES at: http://ruffian.cornell.edu/

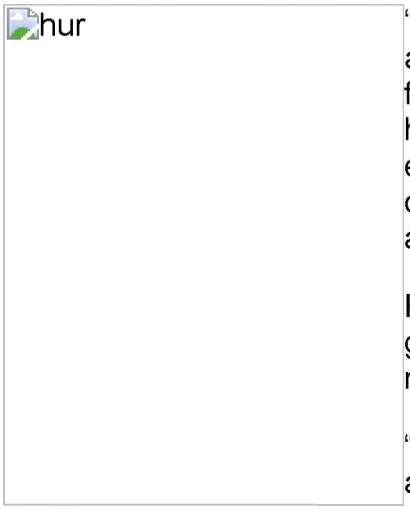
Expanding its capacity to offer emergency and specialty care for horses, Cornell Ruffian Equine Specialists (CRES) has hired three new equine veterinarians. As surgeons and emergency clinicians they will help build the new referral and emergency care practice, which opened in spring 2014 near the Belmont Racetrack backstretch in Elmont, N.Y. as an extension of the Cornell University Hospital for Animals. Full 24/7 emergency and critical care services will be available starting August 1, 2014.



Dr. Kyla Ortved joins CRES as an Assistant Clinical Professor in the Department of Clinical Sciences at Cornell's College of Veterinary Medicine. Based in Elmont at the CRES facility, she will serve as equine surgeon and emergency clinician starting July 15. Dr. Samuel Hurcombe joins CRES as a Clinical Associate Professor and Specialist in Equine Emergency Surgery and Internal Medicine, and will manage emergency and critical care as well as internal medicine cases starting July 21. Dr. Gabriel Cook '92 has joined CRES on a part-time basis and will conduct surgeries on Fridays.

Ortved earned her DVM at the University of Guelph in Ontario, Canada in 2006, following which she completed a large animal internship at the University of Georgia and large animal surgery residency at Cornell University. She will be completing her PhD in Comparative Biomedical Sciences at Cornell in June, 2014. During her PhD program she worked as a large animal emergency surgeon while studying the potential of gene therapy to improve cartilage healing. CRES Director Dr. Alan Nixon served as her advisor, and she worked closely with fellow equine surgeons Drs. Lisa Fortier and Norm Ducharme, whom she will join again at CRES.

Ortved has published in many academic journals, attracted independent research funding for her work on gene therapy and stem cell research, and taught many lectures and laboratories on subjects related to equine diagnosis, surgery, and therapy.



"I'm excited for the chance to be a part of something from the beginning and help build up this practice," said Ortved. "CRES is a phenomenal facility with all the equipment necessary for diagnosing and treating horses. There is also an excellent team in place led by some of the best equine surgeons in the world. There's a lot of enthusiasm among trainers, owners, and clients. They're excited about what the facility has to offer and I look forward to working with them."

Hurcombe's specific areas of interest include medical and surgical gastrointestinal disease (colic); equine cardiac, respiratory, and musculoskeletal conditions; and infectious diseases.

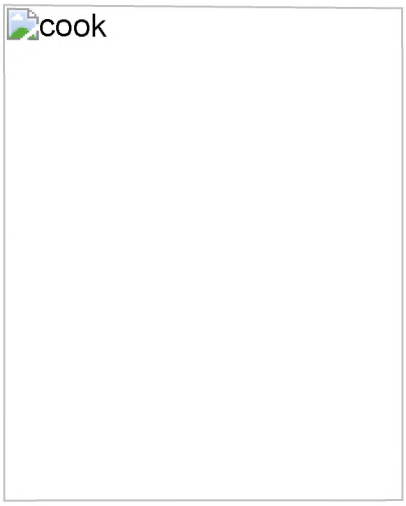
"I'm very excited for this opportunity— Cornell has an amazing reputation and strong cohesive faculty and it's great to be welcomed into that community," said Hurcombe. "It's a great name on a private practice with a high expected caseload, interesting patients, and a world renowned team. I can be both a clinician and a professor and that's a perfect fit for me."

Originally from Australia, he earned a Bachelor of Veterinary Medicine and Surgery with first class honors from Murdoch University in Perth, Autralia in 2003. He completed a Master of Science as well as a residency in equine internal medicine at the Ohio State University in 2008, followed by a fellowship in equine emergency and critical care in 2010. He served there as a clinical track assistant professor in equine emergency and critical care until the present.

Hurcombe is a Diplomate of the American College of Veterinary Emergency and Critical Care and of the American College of Veterinary Internal Medicine. He has published numerous papers in and served as a reviewer for many peer reviewed journals and authored chapters in several books on subjects of equine veterinary care. His teaching has spanned clinical skills from surgery to lameness to neonatology. He has won numerous awards for clinical research, service, and teaching.

"It's exciting to start something from the ground up, especially something that sparks the kind of excitement and support we've already seen in the equine community," said Hurcombe. "I look forward

to helping build CRES into a center of excellence renowned for its specialty equine care."



Cook completed an internship at the Rood and Riddle Equine Hospital in Lexington, KY and a large animal residency at North Carolina State University in 1996. He served as a staff surgeon at a private practice in the San Francisco Bay area before joining New England Equine Practice in 1998. He is a Diplomate of the American College of Veterinary Surgeons.

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- Events
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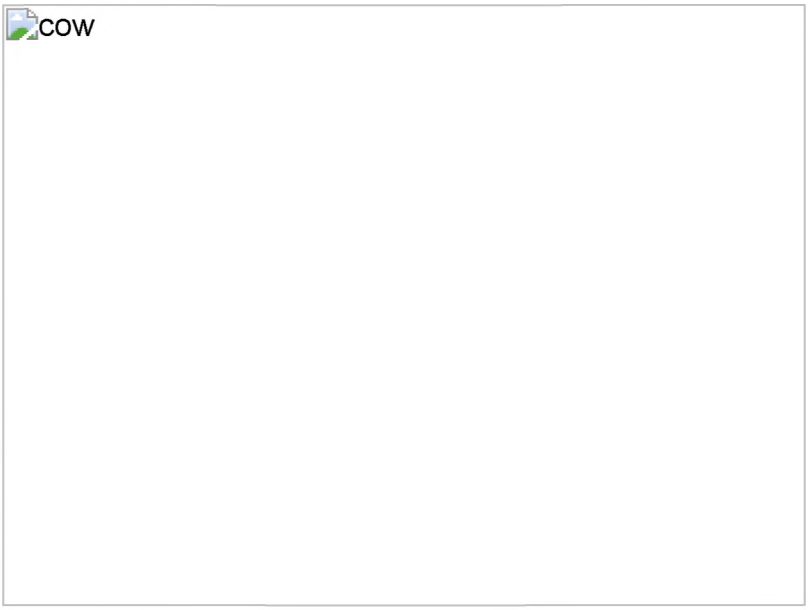
  - Equine Specialty Arthroscopy Course
  - 2014 New York State Veterinary Conference

Dog beats the odds of Lyme-induced kidney disease

A rugged rascal since puppyhood, Cowboy had weathered many scuffs, but in spring 2012, his owner, Jay Phillips, noticed something very wrong. Though he had been fine the previous day, suddenly the Boston Terrier was reluctant to move or eat and began crying late one night. He seemed limp and in the morning he was paralyzed from the neck down.

“It was terrifying,” said Phillips. “I raced him to Cornell University Hospital for Animals and they took samples for a bunch of tests.”



The doctors suspected Lyme disease, and proteinuria and hypoalbuminemia seen on blood work raised concern about the possibility of Lyme nephritis, a condition in which Lyme disease attacks the kidneys.

“Test results told us that Cowboy's kidneys were being damaged at two different locations, both at the glomerulus (or filtering apparatus) and the renal tubules (concentrating apparatus),” said Dr. Catherine Cortright, who oversaw the case. “The glomerular damage was causing protein to leak into Cowboy's urine. The tubular damage resulted in glucose remaining in the urine rather than being pumped back into the body and saved. It caused cells to be sloughed into the renal tubules and appear in the urine.”

Testing at the Animal Health Diagnostic Center revealed that Cowboy had chronic Lyme disease and was experiencing an acute flare up. Lyme disease can present two different clinical scenarios; an acute infection, or chronic disease. The acute form usually attacks the joints, causing an intermittent lameness that may move from one joint to another. The more chronic disease is the result of antibodies against the bacteria building up in the blood and blocking the filters of the kidney, causing extensive kidney damage that can be fatal.

“Most dogs that are Lyme positive in this area have no clinical signs, and just being exposed and testing positive is not a reason to treat,” said Cortright. “But Cowboy had developed severe clinical signs. It’s possible he had Lyme nephritis, a serious and life-threatening condition that is poorly researched in the dog. Many of the treatment options are in their infancy and there is not yet strong scientific support for any recommended treatments. Cowboy's kidneys had experienced extensive damage. Kidneys in general are not able to regenerate function. This means that every insult that they experience is irreversible, so waiting to treat aggressively could mean the loss of adequate kidney function in the future.”

The prognosis was grave, but Cortright prescribed a combination of medications that helped ease Cowboy back to functional kidney levels. Recent tests have revealed a more complex picture, suggesting that autoimmune disease, which can be sparked by Lyme disease, might also have played a role in Cowboy’s symptoms. Nevertheless, Cowboy’s symptoms have been managed through medication since he came to CUHA, and frequent rechecks show he continues to maintain the good health he restored.

“Initially they had estimated he had two months to live, but I took him home and had a serious talk with him, and years later he’s still thriving thanks to the care he gets at CUHA,” said Phillips. “He looks like a million and still has his spunky personality. I took him on a three mile walk yesterday and he came home and found a rope to play with. I owe Dr. Cortright everything, she was a rock star. She called me from her honeymoon to check in on him. It has been a very long road, but Cowboy has gotten better and better."

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  - 2014 New York State Veterinary Conference

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Call for dogs with indolent ulcers for randomized controlled clinical trial

Drs. Eric Ledbetter, DACVO, and Michele Edelmann of the Cornell University Hospital for Animals (CUHA) Ophthalmology Service are evaluating the effect of adjunctive treatment with platelet rich plasma (PRP) on corneal re-epithelialization in dogs with indolent corneal ulcers.

They are seeking volunteers to participate in the treatment study. Candidates include dogs with indolent ulcers (superficial epithelial defects with no stromal involvement and loose epithelial edges). Participants must weigh more than 4.5 kg (10 lbs.).

Participants receive free diamond burr debridement treatment at the patient's first visit, free medications and e-collar, and two free recheck appointments at two and four weeks after debridement.

Owners pay for the initial ophthalmological exam fee to determine candidacy for the study. Selected participants will spend a morning at CUHA as the visit will last approximately three hours. They will undergo a free diamond burr debridement to treat corneal ulcers. Veterinarians will collect blood from the animal from which they will produce individualized PRP for treatment. Owners must be willing to give study drugs four times daily during waking hours and to return for the free rechecks two and four weeks after the initial procedure.

Contact Michele Edelmann at mle64@cornell.edu with questions.
Call 607 253 3060 to schedule an appointment with the Ophthalmology Service.

26TH ANNUAL FRED SCOTT FELINE SYMPOSIUM

SUMMARY

Greetings from the seemingly eternal winter that has dusted the hills of Ithaca with snow and blanketed us in cold for longer than usual. As spring approaches, and the days get longer and warmer, we always look forward to one of our favorite summertime events, the Annual Fred Scott Feline Symposium, to be held here at the College between July 25th and July 27th, 2014. This year marks the 40th Anniversary of the Cornell Feline Health Center, the first institution dedicated solely to the health and well-being of cats everywhere, and we are very excited about this year's program. Of course, we are also excited about commemorating and celebrating the unique and positive role that the Center has played in feline health; and as we look forward to the future, we cherish the opportunity to interact and reconnect with you in an educational and enjoyable setting.

We are extremely fortunate to have Dr. Jodi Westropp, of the University of California at Davis, School of Veterinary Medicine, as this year's keynote speaker. Widely recognized as an expert in the field of feline urology, Dr. Westropp will present a number of talks highlighting the etiology, diagnosis, and treatment of diseases of the lower urinary tract of cats. Her presentations promise to be educational, practical, and stimulating, and we very much look forward to her talks, including this year's James R. Richards Memorial Feline Lecture. This year's program will also focus on other important issues that impact practicing veterinarians on a regular basis, ranging from cardiopulmonary resuscitation and hospice/geriatric medical care to alternative medicine and a review of the diagnostic and treatment options for feline thromboembolic disease. Rounding out our program, we have planned a number of opportunities for attendees to take part in interactive laboratory sessions highlighting new recommendations of cardiopulmonary resuscitation and the use of peripheral nerve blocks for analgesia/anesthesia. All in all, the quality and breadth of this year's program promises to be a fitting celebration of the role that the Cornell Feline Health Center has played, and will continue to play, in the welfare of cats throughout the world.

Of course, a celebration cannot be all work, so we have arranged for attendees to have ample opportunity to relax and have fun. Our annual picnic will be held in the Herbert F. Johnson Museum of Art on the Cornell University campus, a venue that promises to be both elegant and inspiring. A wine and cheese social hour and informal breakfast and lunch breaks, to be held in the College of Veterinary Medicine, also promise to provide an opportunity to relax, take a load off, and unwind while catching up with old friends and making new ones. Ithaca is beautiful in the summertime, and we look forward to hosting you at what has become a premier first-hand source for practicing feline veterinarians to learn, interact, and enjoy.

Best regards, and I look forward to seeing you for this special commemorative symposium.

Bruce G. Kornreich DVM, PhD, DACVIM (Cardiology)
Associate Director, Cornell Feline Health Center
Cardiologist, Department of Clinical Sciences
Cornell University College of Veterinary Medicine

PLANNING COMMITTEE

A special thank you to the Feline Conference Steering Committee for creating this year's program.

Bruce G. Kornreich, DVM, PhD, DACVIM (Cardiology)
Associate Director of the Feline Health Center

Paul S. Maza, DVM, PhD

Carolyn M. McDaniel, VMD

Kenneth W. Simpson, BVM&S, PhD

DETAILS

WHEN
Friday, July 25, 2014 - Sunday, July 27, 2014

WHERE
Cornell University College of Veterinary Medicine
930 Campus Road
Ithaca, New York 14853-6401
USA
607-253-3200

PLANNER
Kathleen Hall

CAPACITY
120 (-7 remaining)

Equine Stifle Specialty Arthroscopy Course

Introduction

Cornell's College of Veterinary Medicine invites you to join us for a two-day intensive course in equine stifle arthosocopy. This specialty course extends beyond advanced equine specialty arthroscopy courses, and focuses only on stifle arthroscopy. A high level of arthroscopic competency is prerequisite. The 2 day course covers femoropatellar joint disease on day 1, including lectures and wet laboratory. The second day features femorotibial joint disease lectures, and a arthroscopy demonstration with extensive cadaver limb wet labs.

Course is limited to 32 attendees.

Hospital GPS Coordinates

42.4466,-76.4647

Details

When
Friday, September 5, 2014 - Saturday, September 6, 2014
7:45 AM - 4:45 PM

Where
College of Veterinary Medicine
Cornell University
Veterinary Complex
906 Campus Road
Ithaca, New York 14853-6401
607-253-3200

Planner
Kathleen Hall